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Nutrient reduction strategy update and opportunities for agribusinesses

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Introduction

The Iowa Nutrient Reduction Strategy is a science-based framework that identifies in-field, edge of field, and land use practices that minimize loss of nitrogen and phosphorus to surface water. In addition to reductions in agricultural non-point sources of nutrients, the strategy also identifies reductions for non-agricultural point sources such as municipal wastewater treatment plants. The Hypoxia Task Force identified a goal of reducing the total nitrogen and total phosphorus load by 45%. The Iowa Nutrient Reduction Strategy outlines the effectiveness of the identified agricultural practices to assist farmers in selecting practices individually or in combination to meet their nutrient reduction goals.

Many practices identified by the Iowa Nutrient Reduction Strategy involve modifications to current management practices or the addition of a new practice. Crop consultants, agronomists, equipment dealers and other agribusinesses have an opportunity to assist farmers in navigating the list of practices and helping them to evaluate options that will work on their farm to minimize the loss of nutrients. Many agribusinesses from across the state have been engaging in new or expanded areas of their business to meet the demand for cover crops and nutrient management tools and products.

Cover crop seeding and management

Cover crop seed sales and coordination of aerial or post-harvest seeding has been increasing among many agricultural retailers. Winter hardy cover crops also require recommendations for herbicide timing and rate of application for spring termination. Cooperatives and agricultural retailers across the state have added services in recent years to support the implementation of additional cover crop acres. Two Rivers Coop in Pella has purchased a drill and offers custom seeding of cover crops for their customers. Farmers Coop Society in Sioux Center also provides custom application of cover crop seed to encourage increased use of cover crops for erosion control and minimizing nutrient loss. Agribusinesses also advise farmers on the additional management involved in maximizing the cover crop benefits and minimizing any impacts on the following crop.

Evaluation of new tillage methods

Equipment dealers and cooperatives are encouraging farmers to evaluate new tillage systems through complementary or low cost use of equipment and demonstration plots. John Deere has developed a program in the Boone River Watershed to increase implementation of strip-till. Local dealers KC Nielsen Ltd and Van Wall Equipment offer the use of strip-till and minimum till equipment to give farmers the opportunity to test the equipment on their farms within the watershed. Farmers Coop Society incorporated strip tillage into a demonstration plot featured at a 2014 field day in partnership with the West Branch of the Floyd River Watershed project.

Nutrient management

Farmers Coop Society has incorporated several new tools and services for increasing nitrogen use efficiency while promoting profitability and sustainability. Their High Road to High Yields program encourages use of products and tools such as nitrogen stabilizers, sensor technologies along with in-season nitrogen application with high-clearance equipment, and demonstration of manure management strategies to minimize nutrient loss. Many of their nutrient management tools were featured at a 2014 field day in partnership with the West Branch of the Floyd River Watershed project.

Watershed project partnerships

Along with Farmers Coop Society in Sioux Center partnering in the West Branch of the Floyd River project, many other agribusinesses are partnering with Water Quality Initiative watershed projects to increase practice adoption and improve water quality (Figure 1). DuPont Pioneer, along with other agencies and organizations, has partnered with the Benton Soil and Water Conservation District to encourage the use of cover crops on seed corn acres. Hagie Manufacturing, North Central Cooperative, Van Wall Equipment, and KC Nielsen Ltd are working with other partners in the Boone River Watershed to promote and demonstrate practices outlined in the Iowa Nutrient Reduction Strategy. Agriland FS, Aspinwall Coop, West Central Coop, Crop Production Service, Brinkman Ag Solution, DC AG, C3 Technologies and Cole Christensen are partners in the Bluegrass and Crabapple- East Nishnabotna Watershed Project and are helping to develop peer-to-peer networking with other project partners to increase adoption of nutrient reduction practices.

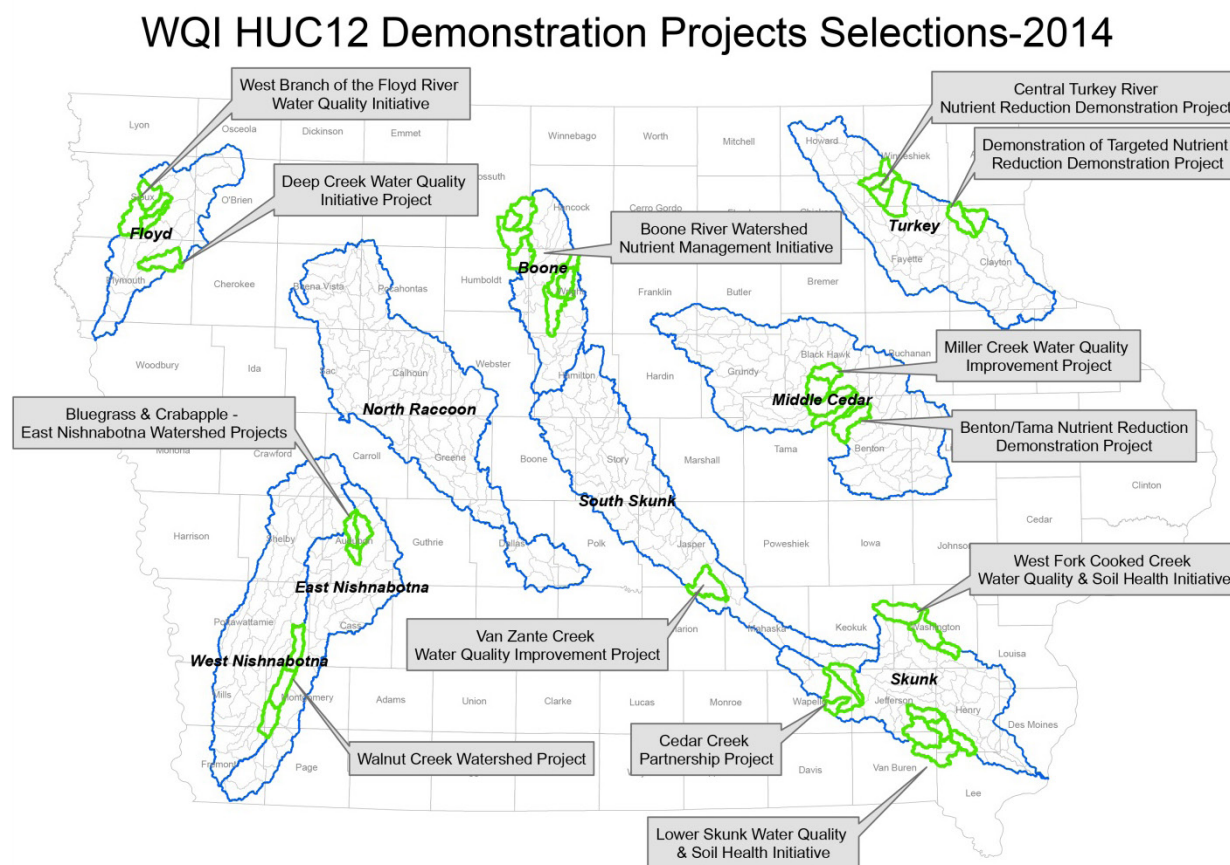


Figure 1. Watershed Projects Funded in 2014 through the Water Quality Initiative.

Golden Furrow is a partner in the Cedar Creek Partnership Watershed Project to promote nutrient management tools and products to reduce nutrient loss. Le Mars Agri-Center, Remsen Farmers Coop, and Farmers Coop are partners in the Deep Creek Water Quality Initiative Project which focuses on promoting manure and livestock production practices that minimize nutrient loss. The Lower Skunk Water Quality and Soil Health Initiative has partnered with Chem Gro Inc. and other partners to promote soil health and in-field and edge of field nutrient management practices. The Walnut Creek Watershed Project has United Farmers Mercantile Coop and Green Cover Seed among its partners which seek to network with local stakeholders to promote and demonstrate practices identified in the Nutrient Reduction Strategy.

Conclusions

Cooperatives, equipment dealers, and ag retailers play a critical role in helping farmers to navigate options outlined in the Iowa Nutrient Reduction Strategy. Selecting practices that work with their current cropping system can provide solutions for minimizing nutrient loss that are economically and environmentally beneficial. Opportunities for partnership and collaboration in watershed projects are ongoing, contact local Soil and Water Conservation District offices for more information on how agribusiness can partner with existing projects, or support the development of new projects that improve water quality.

References

Reducing Nutrient Loss: Science Shows What Works. Iowa State University Extension and Outreach publication SP0435. <http://store.extension.iastate.edu/Product/Reducing-Nutrient-Loss-Science-Shows-What-Works>

Water Quality Initiative Demonstration Projects <http://www.cleanwateriowa.org/demonstration-projects.aspx>